

# Cyberbullying as an Act of Revenge?

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**D**espite significant overlaps between victim status in traditional forms of bullying and cyberbullying, and qualitative results about self-reported reasons for cyberbullying, the role of revenge and retaliation as a motive to engage in acts of cyberbullying has not yet been examined systematically. As a first step, this study investigates whether and to what extent traditional victims, when they become cyberbullies, actually choose their former (traditional) perpetrators as targets of their own cyberbullying behavior. Furthermore, the impact of individual differences in relevant traits, such as vengefulness and justice sensitivity, on the choice of cybervictims is examined. Data from 473 students were collected via an online survey. Of these, 149 were identified as traditional victims/cyberbullies. Results show that traditionally bullied students indeed tend to choose their former perpetrators as cybervictims, and that individual differences play a role in the choice of their victims. Implications for further research, as well as for interventions and prevention programmes, are discussed.

■ **KEYWORDS:** cyberbullying, bullying, revenge, justice, empathy

Resulting from the advancement of new communication technologies, cyberbullying has emerged as a quite recent phenomenon. In current definitions, it has been described as the deliberate and repeated harm inflicted through the use of computers, cell phones, and other electronic devices (Hinduja & Patchin, 2009), carried out as an aggressive act by a group or individual against a victim who cannot easily defend him- or herself (Smith et al. 2006). Cyberbullying may occur in various forms, including flaming/trolling, harassment, cyber-stalking, denigration, impersonation/identity theft, outing, photo shopping, exclusion, threatening with physical harm, or happy slapping (Willard 2006). Several electronic communication tools provide opportunities for cyberbullying, including cell phones (e.g., phone call, text message, picture/video clip bullying), or the Internet (e.g., e-mail, instant messaging, websites, chat-rooms). Cyberbullying may occur anywhere and at any time. While there seems to be no place to hide for cybervictims, the perpetrators in contrast benefit from the breadth of the audience and the greater invisibility compared to traditional forms of bullying.

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As an aggressive act (Smith, 2006), cyberbullying could be motivated by revenge (Goberecht, 2008; Hinduja & Patchin, 2009; Sanders, 2009). As an action in response to some perceived harm or wrongdoing by another group or person that is intended to inflict damage, injury, discomfort, or punishment on the party judged responsible (cf., Aquino, Bies, & Tripp, 2001), revenge is a retaliatory measure by which people seek satisfaction and try to reestablish justice (Govier, 2002; Gollwitzer, 2009). As such, revenge encapsulates the full range of aggressive behaviors. What makes it uniquely different from other aggression constructs (verbal, physical, covert/overt, indirect/direct, interpersonally-/organisationally-directed), is that it is particularly concerned with reactions to perceived injustices (Bies & Tripp, 2005).

Given that cyberbullying can be regarded a covert form of psychological bullying (Smith et al., 2008), it make sense to assume that it is driven by a similar set of motivations as traditional bullying. Such motives may include relational concerns and a 'need to belong' (e.g., Pronk & Zimmer-Gembeck, 2009), dominance (e.g., Pellegrini & Bartini, 2001), power and social status (e.g., Ireland, 2002), social attention (e.g., Kingston, 2008), self-worth defense (e.g., Salmivalli et al., 1999) etc. Other factors might include a striving for resources and material gains, venting anger, jealousy, boredom, and entertainment (Sanders, 2009). So far, there is little research on the motivational basis of cyberbullying, and to the best of our knowledge, there are no established instruments to systematically assess motives underlying cyberbullying in particular. When asking cyberbullies directly about their motives, most of them endorse the same set of motives as do traditional bullies (Sanders, 2009).

While under some circumstances all these motives may be relevant to cyberbullying, there is some evidence suggesting that revenge might be of particular importance: Hinduja and Patchin (2009) report that the most frequent explanation for cyberbullying was 'to get revenge' (22.5%; see also Goberecht, 2008), and another 2.8% stated 'Because they picked on me in school', both linking cyberbullying to matters of 'just revenge'. These numbers might be misleading, however, because taking revenge requires that cyberbullies actually acted against those who had previously bullied them. This, however, has not been controlled for in previous studies.

The overlaps between offline and online bullying reported in several studies could be interpreted as further empirical. For example, Ybarra and Mitchell (2004) found that most cyberbullies were also cybervictims, and that almost half of the cyberbullies reported having been victims of traditional bullying. However, these overlaps between cyberbullies and (cyber)victims still do not reveal any information as to whether the targets of cyberbullying are actually those who had been (traditionally) perpetrating the cyberbully before. Cyberbullying could as well be directed against known or unknown third persons, in which case one could not call it revenge, but rather some form of displaced aggression. The present study is the first to specifically address revenge for being bullied within the relevant subsample of traditional victims/cyberbullies.

On a conceptual level, Ybarra and Mitchell (2004) argue that while for some cyberbullies, the internet may simply be an extension of the schoolyard, some may compensate their physical weakness (which precludes them of becoming 'tradi-

tional bullies') by using cyberbullying to assert dominance over others. The ability to remain unidentified as a cyberbully creates an asymmetrical power constellation. Victims of traditional bullying may seek retribution through technological means, thereby 'turning the table' on their aggressors (Hinduja & Patchin, 2009). This is made possible through the equalising characteristics of the Internet and its ability to preempt the relevance of physical intimidation (Kowalski & Limber, 2007). According to Ybarra and Mitchell (2004), these differences in the aspect of asymmetrical power between conventional and cyberbullying may help explain why bullies are not always cyberbullies and vice versa.

Based on the aforementioned conceptual and empirical arguments, we expected a substantial percentage of traditional victims/cyberbullies to be motivated by revenge. Considering the existing gap in current cyberbullying research, this study aims to make a first step in addressing this question by examining in how far traditional victims, when they become cyberbullies, actually choose their former (traditional) perpetrators as their targets. Only then would it make sense to consider cyberbullying a form of revenge.

Second, we investigated to what degree cyberbullies' choice of targets can be predicted by personality traits that are known to be related to vengeful behavior. We expected that the extent to which cyberbullies chose their former (traditional) perpetrators as targets can be predicted by dispositional vengefulness and justice sensitivity from a victim's perspective. Vengefulness has been conceptualised as the degree to which individuals tend to inflict harm or demand retribution for a perceived wrong (Stuckless & Goranson, 1992). Justice sensitivity from a victim's perspective (or simply, 'victim sensitivity') has been conceptualised as the degree to which a person responds with anger, moral outrage, and rumination towards unfair disadvantages and victimisations (cf. Schmitt, Gollwitzer, Förster, & Montada, 2005). Victim-sensitive individuals have been shown to respond particularly sensitive towards being exploited, deceived, or humiliated (Gollwitzer & Rothmund, 2009; Gollwitzer, Rothmund, Pfeiffer, & Ensenbach, 2009) and tend to be more punitive (Schmitt, Neumann, & Montada, 1995). Thus, highly victim-sensitive individuals should be particularly motivated to avenge prior victimisation. Since revenge is also motivated by a desire to make it clear that one is not the kind of person to be 'walked over' to the offender (Gollwitzer & Denzler, 2009; Gollwitzer, Meder, & Schmitt, in press), one can expect victim sensitivity to predict the degree to which cyberbullies pick their former perpetrators as targets.

In line with the reasoning by Smith et al. (2008) that cyberbullies may get peer rewards through sharing their actions, it might be less important to convey this message to the former perpetrator rather than to other relevant peers, thereby protecting one's social prestige. As cyberbullying is most often anonymous, the best guarantee that the message is conveyed is to cyberbully it in the presence of peers.

Bullies often tend to have a high status in their peer group (Juvonen et al., 2003). Aquino, Tripp, and Bies (2001) found that victims were less likely to seek revenge against higher status aggressors, arguing that victims feared counter-retaliation. Considering the nature of cyberbullying, it might indeed be a very attractive form of revenge: it satisfies the wish to seek justice, to punish the perpetrator, and to demonstrate to other relevant peers that one is not a person to be walked over,

while at the same time hiding his/her identity from the target. Thus, cyberbullying allows taking revenge while minimizing the probability of retaliation.

Empathy has also been linked to aggressive behavior in several studies (Jolliffe, 2004). To date, research has mainly focused on the link between empathy and aggression in general. Only few studies addressed the empathic skills of traditional bullies. These studies revealed an inconsistent pattern, which seems to be related to the gender of participants. There is even less research on cyberbullying and empathy. As mentioned above, cyberbullies remain more anonymous than traditional face-to-face bullies. This anonymity, or distance between the perpetrator and the victim, implies that perpetrators will be prevented from observing the immediate consequences of their behavior. Therefore, cyberbullies may even experience less empathy for their victims than traditional bullies (Pornari & Wood, 2010). Alternatively, cyberbullying may particularly attract persons with low trait empathy. However, and in contrast to findings with traditional bullying, first research findings do not support this role of empathy for cyberbullying. Cyberbullies were not found to show a lack of empathy in comparison to victims, bully-victims, and non-involved persons (Almeida et al., 2008). Therefore, we decided to control for empathy, but did not have a specific hypothesis.

## ■ Method

The methods section will start with a description of the procedure. Next, the measures used and the study sample will be described.

### ■ Procedure

The study was advertised in a popular German online discussion forum for students (Schuelervz.net). The link was active for a period of one week in December, 2009. As an incentive, gift vouchers (5 x 20€ and 2 x 30€; redeeming required an adult) were raffled among participants. Winners could choose between vouchers either for a clothing store or for an online bookshop. To maintain anonymity, those who completed the questionnaire were redirected to another webpage, where they could enter their contact data for the raffle in a separate dataset.

### ■ Instruments

**Cyberbullying.** Cyberbullying was assessed with the 18-item Berlin Cyberbullying-Cybervictimisation-Questionnaire (BCyQ) (Schultze-Krumbholz & Scheithauer, 2008, 2009), using behavioral categories to operationalize the seven categories of cyberbullying proposed by Willard (2006): Flaming, harassment, denigration, impersonation, outing/trickery, exclusion and cyber-stalking. Students indicated how often they had become perpetrators of a given behavioral category within the last 6 months. Each item used a 5-point ordinal response format (*did not occur/happen at all, once or twice, twice or three times a month, once a week, and several times a week*). Example items are 'I used someone's password and wrote things in his/her name that damaged his/her friendships' (impersonation) and 'I sent or posted secret, embarrassing or insulting photos/videos of a person without his/her consent' (outing).

Because of the ordinal response format, no scale was computed. Instead, students who indicated performing *at least one* of the mentioned behaviors *once or twice within the last 6 months* were categorised as cyberbullies. If, for example, a participant indicated that he or she denigrated someone *once or twice within the last 6 months*, this was considered a relevant cyberbullying behaviour, even if he or she performed no other form of cyberbullying during that time.

**Traditional victimization.** Students indicated how often they had become the victim of traditional bullying within the last 6 months on a single item, using the same 5-point ordinal response format as for cyberbullying, preceded by a description of (traditional) bullying (Scheithauer, Hayer & Petermann, 2003) in order to ensure that participants would not include acts of cyberbullying in their answer concerning their overall involvement in (traditional) bullying. For the purpose of this study, students who indicated being bullied at least *once or twice within the last 6 months* were categorized as ‘traditional victims’. Note that our operationalisation of (cyber)bullying differs from typical operationalisations of bullying, where a child would only be categorised as a ‘bully’ if he or she repeatedly engaged in such behaviour. For the present purpose, we decided to omit this criterion since our research question is mainly correlational, and a valid estimation of the prevalence of cyberbullying is not important for our hypotheses.

**Vengefulness.** Dispositional vengefulness was assessed with a German version (Werner & Appel, 2004) of the revenge subscale of the Transgression-Related Interpersonal Motivations Inventory (TRIM; McCullough et al., 1998). An item example is ‘I want him/her to get what he/she deserves’ (5 items;  $\alpha = .88$ ). Responses were given on a 6-point Likert scale (1–6). For further analyses, mean scores were computed for all measures with a continuous (equidistant) response format.

**Victim sensitivity.** A brief version (cf. Faccenda, Pantaléon, Bois & Schmitt, 2008) of Schmitt et al.’s (2005) victim sensitivity for befallen injustice (SBI) scale was employed in this study. An item example is ‘It annoys me when I’m treated worse than others’ (5 items;  $\alpha = .77$ ).

**Choice of last victim.** Participants who were classified as cyberbullies as a function of their response to the first question were then asked to think about the *last* person they chose as target for an act of cyberbullying, and to indicate whether — *prior* to this act — this person had previously bullied them traditionally or not.

**Proportion of traditional perpetrators among cybervictims.** Second, participants were asked to indicate how many of their cybervictims had ‘traditionally’ bullied them before (*None of them, About a quarter, Approximately half of them, About three quarters, About all of them*).

**Empathy.** Five context-specific items operationalising ‘empathy for cybervictims’ were formulated (e.g., ‘I can well imagine how someone feels who is being harassed via mobile phone or internet’). Students indicated their agreement with these statements on a 6-point Likert scale (*Totally disagree* to *Fully agree*). Reliability of the scale was Cronbach’s  $\alpha = .70$ ).

**Demographic and other control variables.** Along with age and sex of participants, they were asked about their self-assessed *technological competency* in matters of mobile phone and Internet and about the *presence of peers during acts of cyberbullying* with one item each. No further demographic or SES data were collected. This was done in order to reduce participation time to a minimum, and to foster a sense of anonymity among participants.

### Participants/Sample

Out of 777 participants starting with the online questionnaire, 77 already dropped on the first page and another 63 on the second page when asked about their age and sex. In general, the dropout rate increased by 2–4% per page after that. Testing for differences between those who did vs. did not complete the questionnaire did not yield any significant results. Only a few questions were programmed to be obligatory to prevent page skipping, so not every participant reaching the last page answered to every single question. Eventually, 473 (60.9%) had a sufficient completion rate to be retained for further analyses.

Three-hundred and seventy-five (79.3%) persons were classified as cyberbullies. Of these, 47.7% were male (52.3% female), 46.4% were less than 18 years old (Range: 11 to 17;  $M = 14.63$ ) and 53.6% were older than 18 years (Range: 18 to 25;  $M = 20.9$ ). These rates are higher than usual (cf. Slonje & Smith, 2008), but, as argued earlier, this might be the result of our method, and it could also be due to the greater anonymity connected to an online survey. It is, however, of no consequence for the present purpose and our analyses.

One-hundred and seventy-nine (30.9%) participants reported being traditionally victimised at least once or twice within the last 6 months. Of these, 58.1% were male (41.9% female), 69.3% were less than 18 years old (Range: 11 to 17;  $M = 14.57$ ), and 30.7% were older than 18 years (Range: 18 to 25;  $M = 20.60$ ).

## Results

To answer our research questions, the overlapping category of both cyberbullies/traditional victims had to be identified first. Out of 179 traditional victims, 83.3% ( $N = 149$ ) were also cyberbullies. Of these, 56.4% were male (43.6% female), 65.8% were less than 18 years old (Range: 11 to 17;  $M = 14.61$ ), and 34.2% were older than 18 years (Range: 18 to 25;  $M = 20.80$ ). The following analyses refer to this category of cyberbullies/traditional victims only, with a varying  $N$  depending on the number of complete answers on the according third variables.

### Choice of Last Victim

Of all cyberbullies/traditional victims,  $N = 133$  answered to the question of whether or not they had chosen a traditional perpetrator as their last online target (see Table 1). Of these, 41.4% ( $N = 55$ , subsequently referred to as ‘avengers’) indicated choosing a target who had traditionally bullied them before (which equals 14.7% among all 375 cyberbullies), whereas 58.6% chose another person as their last cybervictim (subsequently referred to as ‘non-avengers’). There was no effect of sex on this frequency: Male (58.2%) and female respondents (41.8%) did not differ with regard to the extent to which they targeted a former traditional bully,

$\chi^2(1; N = 133) = 0.04; p = .86$ . Also, there were no age differences between avengers ( $M = 16.65$  years;  $SD = 3.32$ ) and non-avengers ( $M = 17.14$  years;  $SD = 3.58$ ) ( $t = 0.79; p = .43; df = 131$ ). However, a marginally significant difference was found for self-assessed technological competence ( $t = -1.66; p = .099; df = 131$ ), with a higher competency for avengers ( $M = 4.20; SD = 0.99$ ) than for non-avengers ( $M = 3.86; SD = 1.27$ ).

### Reported Proportion of Traditional Perpetrators

Our second dependent variable was the self-reported proportion of 'traditional' perpetrators among respondents' cybervictims on a scale from 1 to 5. Using this continuous measure allowed us to use more sophisticated methods of data analysis. Of 149 traditional victims/cyberbullies, 144 answered this question. Of these, 47.9% indicated not having any of their traditional perpetrators among their cybervictims at all; 20.1% indicated that about a quarter were persons who traditionally bullied them prior to choosing them as cybervictims; 11.8% indicated about half of them, 10.4% about three quarters, and 9.7% said about all of their cybervictims were former traditional perpetrators. In sum, 52.1% of traditional victims/cyberbullies stated that at least about a quarter of their victims were persons who bullied them before.

In order to analyse the relationship between the degree of traditional victimisation and the proportion to which these victims later chose their former perpetrators as targets for cyberbullying, we used the frequency with which those who were classified as traditional victims indicated being bullied for further differentiation; that is, only the four ordinal scale values from *Once or twice* to *Several times a week* were used. This allowed us to compute an ordinal correlation coefficient (Kendall's tau) regarding the relationship between prior victimisation and the proportion of traditional perpetrators among targets.

Does a more frequent victimisation lead to more vengeful behaviour? Apparently yes: There was a significant correlation between the frequency of traditional victimisation and the reported proportion of traditional perpetrators ( $r = .19; p < .01; N = 144$ ). Separated by age or sex, the strength of this correlation differs just marginally from the entire sample with  $r = .22$  ( $p = .02; N = 63$ ) for females vs.  $r = .17$  ( $p = .04; N = 81$ ) for males, and  $r = .21$  ( $p = .05; N = 51$ ) for participants older than 18 years vs.  $r = .14$  ( $p = .07; N = 93$ ) for those younger than 18 years. Thus, neither sex nor

**TABLE 1**

**Traditional Victimisation Within Last 6 Months and Choice of Former Perpetrator as Last Cybervictim**

	Traditional victimisation				Total
	Once or twice times a month	Two or three	Once a week a week	Several times	
N	93	16	13	11	133
% choice of traditional perpetrator as last cybervictim	36.60% (N = 34)	50.00% (N = 8)	53.80% (N = 6)	36.40% (N = 7)	41.40% (N = 55)
% choice of other (third) person as last cybervictim	63.40% (N = 59)	50.00% (N = 8)	46.20% (N = 7)	63.60% (N = 4)	58.60% (N = 78)

age moderate the relation between frequency of victimisation and the proportion of traditional perpetrators among one’s cybervictims.

Effects of Vengefulness and Victim Sensitivity

The effects of dispositional vengefulness and victim sensitivity on the proportion of former perpetrators as targets of cyberbullying were tested via regression analyses. As before, all analyses were performed only for those cyberbullies who reported being victims of traditional bullying as well. Did vengefulness and victim sensitivity predict the extent to which cyberbullies targeted a prior perpetrator? Unexpectedly, victim sensitivity did not significantly predict the proportion of one’s traditional perpetrators ( $R^2_{\text{corr}} = .04$ ;  $p = .17$ ). This did not change when controlling for age and sex. In contrast, vengefulness turned out to be a significant predictor in a simple regression model ( $R^2_{\text{corr}} = .03$ ;  $p = .02$ ). Even when controlling for age and sex, vengefulness proved to be a significant predictor for the proportion of one’s traditional bullies chosen as cybervictims (see Table 2).

Next, in order to assess the relevance of these traits and to identify the strongest predictors in the context of other potentially relevant variables, a stepwise hierarchical multiple regression was computed, controlling for sex and age in a first block and vengefulness, victim sensitivity, presence of peers when cyberbullying, self-assessed technical competency and empathy in a second block (see Table 3).

Again, vengefulness emerged as a significant predictor of the proportion of former perpetrators as targets of cyberbullying. In addition, the more peers were present, the higher the proportion of former perpetrators among targets, which is in line with the significant bivariate correlation between these two variables ( $r = .25$ ;  $p = .002$ ;  $N = 134$ ). Although the proportion of former perpetrators deviated from normality, the distribution is well within the critical limits proposed by West, Finch and Curran (1995) with skewness = .91 ( $SD = .20$ ), and kurtosis = -.50 ( $SD = .40$ ).

Discussion

The substantial overlap of involvement in traditional and cyberbullying led to the assumption that revenge might be an important motive for cyberbullying (Ybarra & Mitchell, 2004; Smith et al., 2008). Also, some authors found that youth, when asked why they cyberbully others, frequently mention revenge as a motive (e.g., Goberecht, 2008; Hinduja & Patchin, 2009; Sanders, 2009). Previous studies have,

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TABLE 2  
Regression of the Proportion of Traditional Bullies Among Cybervictims on TRIM-R

	$R^2_{\text{corr}}$	Beta	t	F	p
Model	.062			4.172	.007**
TRIM-R		.20	2.35		.020*
Age		-.19	-2.31		.023*
Sex		.10	1.23		.222

Note: Age And Sex As Predictors.  
N = 144 (df1 = 3; df2 = 140); \* $p < .05$ ; \*\* $p < .01$ .



**TABLE 3**

**Stepwise Hierarchical Multiple Regression of Proportion of Traditional Bullies Among Cybervictims on TRIM-R, SBI, Empathy, Presence of Peers and Technological Competency of Traditional Victims/ Cyberbullies, Controlling for Age and Sex**

	$R^2_{\text{corr}}$	Beta	$t$	$F$	$p$
Model	.096			4.315	.003**
Included variables					
Age		-.125	-1.748		.083
Sex		.119	1.344		.181
TRIM-R		.184	2.076		.040*
Peer presence		.212	2.432		.016*
Excluded variables					
SBI		.103	1.176		.242
Empathy		.121	1.314		.191
Technical competency		.121	1.400		.164

Note:  $N = 126$  ( $df1 = 4$ ;  $df2 = 121$ ); \* $p < .05$ ; \*\* $p < .01$ .

however, not explicitly investigated whether and to what extent cyberbullies actually choose their prior perpetrators as targets — only then would it make sense to consider their cyberbullying behavior as an act of revenge. The present study aimed to overcome this problem: Cyberbullies were directly asked whether their last cybervictim was someone who had bullied them before, and they were asked how many of their cybervictims were former ‘traditional’ bullies.

Our data do confirm qualitative evidence about revenge-as-a-motive and are in line with the prevalence data concerning the overlap of traditional victimization and involvement in cyberbullying. Within this group of traditional victims/cyberbullies, 41.4% chose their former perpetrator as their last victim of cyberbullying. Taking a closer look at the proportion of perpetrators among targets, more than half (52.1%) of traditional victims who became cyberbullies stated that at least a quarter of their cybervictims were their former traditional perpetrators within a 6-month period. This can be seen as an important first step in the examination of revenge as a motive, because actually choosing a prior traditional perpetrator as target for cyberbullying instead of a third person is a necessary condition for classifying an act as being motivated by revenge.

One might argue that in our operationalisation, the criteria of repetition might not sufficiently be met. But although the defining components of cyberbullying mentioned in the introduction are widely accepted, there is no terminal consensus in defining cyberbullying (cf. Messini & Nocentini, 2009). This is especially true for the aspect of repetition. There are disagreements about what ‘repeatedly’ actually includes, and over how long a period of time the cyberbullying has to occur (Slonje & Smith 2008; Messini & Nocentini, 2009). For example, the younger students are, the less important repetition is in their subjective definition of cyberbullying (Monks & Smith, 2006). Concerning ‘objective’ definitions, even if a single individual act can be circulated widely, be copied by others, or can be accessible on a website for a long time for different persons to see, meeting the criteria of repetition.

Note that we also introduced a 6-month timeframe only, while other studies (e.g., Smith, 2008, Ybarra & Mitchell, 2004) often use the period an entire

(school)year, so even bullying behavior that occurred once or twice within this time frame could potentially have occurred repeatedly. Also, the asymmetrical constellation between perpetration and victimisation should be taken into account: If two traditional victims independently take revenge by cyberbullying the same perpetrator 'once or twice' within the last months, then this person might well be cybervictimised three or four times within that timeframe, meeting the usual defining criteria of repetition from the cybervictim's perspective (or vice versa, if a once or twice traditionally victimised person decides to cyberbully this perpetrator several times). Also, even a single aggressive threat can cause emotional damage and concern about the future (Dzuka & Dalbert, 2007).

In the light of the social prestige hypothesis (Smith, 2008), the significant correlation between presence of peers and the proportion of former perpetrators among targets raises the question about the role of peers especially for cyber-avengers. Taking revenge might be a way of gaining prestige that is socially more acceptable than choosing innocent third persons as cybervictims. On the other hand, peers might also propose and reinforce cyber-revenge. Further research could elaborate how revenge and social prestige are interconnected. It is important to note, however, that our results suggest that cyber-revenge is not taken 'alone in a darkened room', but more likely with peers being present. By punishing the perpetrator, the cyber-avenger can at the same time demonstrate to other relevant peers that he/she is not a person 'to be walked over'. This could then encourage other victims to avenge against the same bully (if he/she perpetrated them, too), or to express solidarity with the traditional victim by copying the behaviour and further punishing the same traditional bully as a cyber-target.

According to Fiske & Morling (1996), the more power someone perceives in the interaction with a powerful other, the more anxiety is experienced. Consequently, the lack of power leads to coping with anxiety to restore some form of control. Cyberbullying might help to restore such a sense of control by asserting dominance from a safe ground. The sense of powerlessness facing a bully could therefore help explain why some avenge against their perpetrator using traditional bullying, while others tend to restore a sense of control by engaging in cyberbullying. However, it does not explain why some seek cyber-revenge while others show displaced aggression directed against third persons. At this point, the victims sense of justice might become relevant: The venting of anger and restoring a sense of control can be realised by (cyber)bullying anyone less powerful in a given constellation, but justice can only be served by punishing the perpetrator. In our study, victim sensitivity was not a significant predictor of the extent of perpetrators among cybervictims. However, statistical power to find a small effect was only about  $1-\beta = .39$  ( $\alpha = .05$ ). Therefore, larger sample sizes could yield significant effects. Further, being bullied may so clearly be perceived as threatening and unjust (Dzuka & Dalbert, 2007), that even low sensitive individuals interpreted the situation as highly unfair. Thus, no additional variance could be explained. Further research could consider other ways to address the role of (retributive) justice for cyberbullying by assessing direct justice judgements, norms of 'a just response' or attributions of responsibility.

Engaging in cyber-revenge might also be seen from the perspective of fear of retaliation (cf. Lawler & Bacharach, 1987): In relationships with powerful others, individuals are less likely to confront others, but tend to avoid the target and use

indirect/passive strategies to reduce retaliation (Cloven & Roloff, 1993). Aquino, Tripp, and Bies (2001) found that victims were less likely to seek revenge against higher status aggressors, arguing that victims feared counter-retaliation. Cyberbullying allows the avenger to hide his/her identity from the target. Thus, cyberbullying allows taking revenge while minimizing the probability of retaliation. While there might be a certain risk that witnesses snitch on the cyberbully, they are at least safe for the moment, allowing them to do what they might feel incapable of facing their perpetrator in person. Therefore, given that there is a wish for revenge and punishment of the perpetrator, fear of retaliation might be a central variable in explaining the difference between those victims who avenge against their perpetrator using traditional bullying from those who seek cyber-revenge.

Cyberbullying-as-revenge could also be examined from the perspective of reactive vs. proactive aggression (cf. Crick & Dodge, 1996): While proactive aggression is unprovoked, deliberate and goal-directed behaviour used to influence or coerce a peer, reactive aggression is a defensive, retaliatory response to a perceived provocation. Reactive individuals, who tend to interpret a peer's ambiguous behaviour as intentionally harmful to the self, might more readily engage in cyberbullying as a retaliation or defence against the peer, while non-avenging cyberbullying might rather relate to a proactive style. Therefore, the individual style of social information processing could be an important factor for revenge and a topic for further research. In order to minimise the subsumption of ambiguous peer behaviour under 'being victimised', we included a comprehensible description of 'traditional bullying' in our study before asking about own victimisation.

The relationship between traditional victimisation and cyberbullying is obviously not clear-cut. As the focus of the study was revenge in the group of traditional victims/cyberbullies, future research should also take into account more complex relationships between other possible combinations of offline and online bullying and victimisation. In particular, more complex relationships of (ongoing) reciprocity in offline and online victimisation should be addressed, because in ongoing circular dynamics, asking about revenge for a prior attack might yield a response resulting from an individual punctuation<sup>1</sup> that is basically arbitrary.

As a practical implication, the results of this study foster the notion that, especially for the overlapping group of traditional victims/cyberbullies, there is a strong link between both forms of bullying, and that there might even be a causal relationship. They further corroborate that a traditional victimisation is a risk factor of cyberbullying behaviour. Therefore, findings also have important implications for prevention and intervention. Approaches that address the reduction of bullying in general might be promising in decreasing traditional bullying as well as cyberbullying. Inhibiting the experience of victimisation seems to be important for preventing cyber-revenge, which seems to appear quite frequently, but is only one way to cope with this experience. Hence, the findings of this study should be considered during the design and development of new anti-cyberbullying trainings, taking other forms of handling and processing one's own victimisation into account. Approaches that address the reduction of revenge feelings might also be promising, as well as those fostering a sense of control. However, the success of such approaches has to await future evaluation. 'Occasional cyberbullies' might not be considered the primary targets when thinking about preventive measures, if they do so only once or twice

to take revenge for being bullied in person. But regarding the positive relationship between cyber-revenge and the presence of peers, these occasional cyberbullies might also significantly contribute to a culture where cyberbullying may be considered an appropriate answer to traditional victimisation.

The present study also has some limitations. For example, data were collected via an online survey, which has its advantages and disadvantages (cf. Welter et al., 2005). On the one hand, it seems plausible that there is a self-selection bias in online surveys studying an 'online topic'. By collaborating with Germany's largest discussion forum for students, we tried to minimise unrepresentative data. Although our study was only advertised for a short period of time, it therefore had a good chance of reaching at least a representative sample of those who use such forums. If among this sample certain individuals were particularly attracted to our study, it would probably be those who experienced either (cyber)bullying or victimisation themselves. While this would lead to an overestimation of prevalence rates, relative proportions within the according overestimated subsamples (e.g., cyber-avengers among cyberbullies) should hardly be affected. One might even argue that for the sake of statistical power, this kind of self-selection is advantageous for studies where statistical analyses are only to be performed with a subpopulation (e.g., those who qualify for two distinct categories at the same time) that is particularly more likely to participate, especially if it only accounts for a small percentage in the entire population.

Online studies often have higher dropout rates. However, our quote of about 60%, reaching the last page of the survey can be considered satisfactory (cf. Welter et al., 2005) and is probably due to the incentive. As far as the prevalence of the behaviours measured is concerned, generalisation of findings may be limited.

Finally, the cross-sectional design and the methodology used do not allow interpreting for causal effects, even if we explicitly assessed traditional victimisation prior to cyberbullying as a prerequisite for causality. Rather, experimental or longitudinal study designs have to be realised. In sum, this study highlights the role of revenge for traditional bullying victims in cyberbullying.

## ■ Endnote

- 1 Punctuation refers to the process of dividing and organising ongoing interactions into meaningful patterns. Although actions are interconnected by loop-backs to form a circular pattern, each participant uses their own individualised punctuation of the communication behaviours present into a sequence presuming linear causation, therefore interpreting their own behaviour as merely a reaction on the other's behaviour (Watzlawick, Beavin-Bavelas, & Jackson, 1967).

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